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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/927,183	08/10/2001	Oludele Olusegun Popoola	198-1162	5329
7590	04/01/2005		EXAMINER	
Daniel H. Bliss Bliss McGlynn & Nolan, P.C. Suite 600 2075 West Big Beaver Road Troy, MI 48084			FERGUSON, LAWRENCE D	
			ART UNIT	PAPER NUMBER
			1774	
DATE MAILED: 04/01/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/927,183

Applicant(s)

POPOOLA ET AL.

Examiner

Lawrence D. Ferguson

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 07 January 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,2,5 and 7 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,5 and 7 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 August 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Response to Amendment***

1. This action is in response to the amendment mailed January 7, 2005. Claims 1 and 2 were amended rendering claims 1-2, 5 and 7 pending. The indicated allowability of claims 5 and 7 are withdrawn in view of Popoola et al (U.S. 5,983,495).

***Claim Rejections – 35 USC § 103(a)***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-2, 5 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Van Reatherford et al (US 6,345,440).

Van Reatherford discloses a thermally sprayed article comprising a substrate (mandrel) which is thermally sprayed with an internal metal material and then flame sprayed with a polymeric material comprising metal (column 1, line 47 through column 2, line 7). Van Reatherford does not show that the thermally sprayed inner and outer layers have a predetermined thickness as in instant claims 1-2 and 7. However, such features are properties which can be easily determined by one of ordinary skill in the art. With regard to the limitation of the predetermined thickness, absent a showing of

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unexpected results, it is obvious to modify the conditions of a composition because they are merely the result of routine experimentation. The experimental modification of prior art in order to optimize operation conditions (e.g. predetermined thickness) fails to render claims patentable in the absence of unexpected results. The predetermined thicknesses are optimizable as they directly affect the durability and flexibility of the thermally sprayed article. As such, they are optimizable. It would have been obvious to one of ordinary skill in the art to make the thermally sprayed inner and outer layers with the limitations of the predetermined thicknesses since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 USPQ 215 (CCPA 1980). Although Van Reatherford does not explicitly teach the outer layer having a hardness less than the inner layer, because the reference discloses a the same material made using the same process as Applicant, it would have been expected for the hardness of the outer layer to be less than the hardness of the inner layer, absent any evidence to the contrary.

### ***Claim Rejections – 35 USC § 103(a)***

4. Claims 1-2, 5 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Popoola et al (US 5,983,495).

Popoola discloses a thermally sprayed article comprising a substrate (mandrel) which is thermally sprayed (column 2, lines 16-25) forming an inner layer of metal material (steel or nickel) (column 2, lines 23-25). Popoola further teaches flame spraying the material to co-deposit the metallic material (column 4, lines 18-27) which forms the

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outer layer. Popoola does not show that the thermally sprayed inner and outer layers have a predetermined thickness as in instant claims 1-2 and 7. However, such features are properties which can be easily determined by one of ordinary skill in the art. With regard to the limitation of the predetermined thickness, absent a showing of unexpected results, it is obvious to modify the conditions of a composition because they are merely the result of routine experimentation. The experimental modification of prior art in order to optimize operation conditions (e.g. predetermined thickness) fails to render claims patentable in the absence of unexpected results. The predetermined thicknesses are optimizable as they directly affect the durability and flexibility of the thermally sprayed article. As such, they are optimizable. It would have been obvious to one of ordinary skill in the art to make the thermally sprayed inner and outer layers with the limitations of the predetermined thicknesses since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 USPQ 215 (CCPA 1980). Although Popoola does not explicitly teach the outer layer having a hardness less than the inner layer, because the reference discloses a the same material made using the same process as Applicant, it would have been expected for the hardness of the outer layer to be less than the hardness of the inner layer, absent any evidence to the contrary.

***Response to Arguments***

5. Rejection made under 35 U.S.C. 103(a) as being unpatentable over Van Reatherford et al (US 6,345,440) has been maintained. Although Van Reatherford does not explicitly teach the outer layer having a hardness less than the inner layer, because the reference discloses a the same material made using the same process as Applicant, it would have been expected for the hardness of the outer layer to be less than the hardness of the inner layer, absent any evidence to the contrary.

***Conclusion***

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lawrence Ferguson whose telephone number is 571-272-1522. The examiner can normally be reached on Monday through Friday 9:00 AM – 5:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rena Dye, can be reached on 571-272-3186. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should

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you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free).



Lawrence Ferguson  
Patent Examiner  
AU 1774



RENA DYE  
SUPERVISORY PATENT EXAMINER

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3/29/05